PharmBiz

Software Vendors Forum
8th February 2011

Agenda

- Introduction/setup
- Review Action Items
- Dispensing Rules
- Chemotherapy Measure
- HSDs: CAR Items
- PBS XML Schema
- SNOMED
- PBS Number (Item Codes)
- PIR: Prescriber Types
- Data Provisioning
- Other Business
- Meeting Close

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Dispensing Rules

- Different markups and fees apply depending on where an item is dispensed
  - Community Pharmacy
  - Private Hospital Pharmacy
  - Participating Public Hospital Pharmacy
- Results in different prices
- Markup & fee data promulgated manually

Dispensing Rules

- Requirement for:
  - HSDs
  - S99(4) Private Hospital Pharmacies
    - Revised Arrangements for Chemotherapy
- Non-requirement: compliance

Dispensing Rules

- Different markups, fees results in multiple
  - price-to-phamacist
  - DPMQ
- All prices must (should) be published

Dispensing Rules

- Medicare Australia & Software Vendors already handle this requirement
- Needs complicated back-calculations

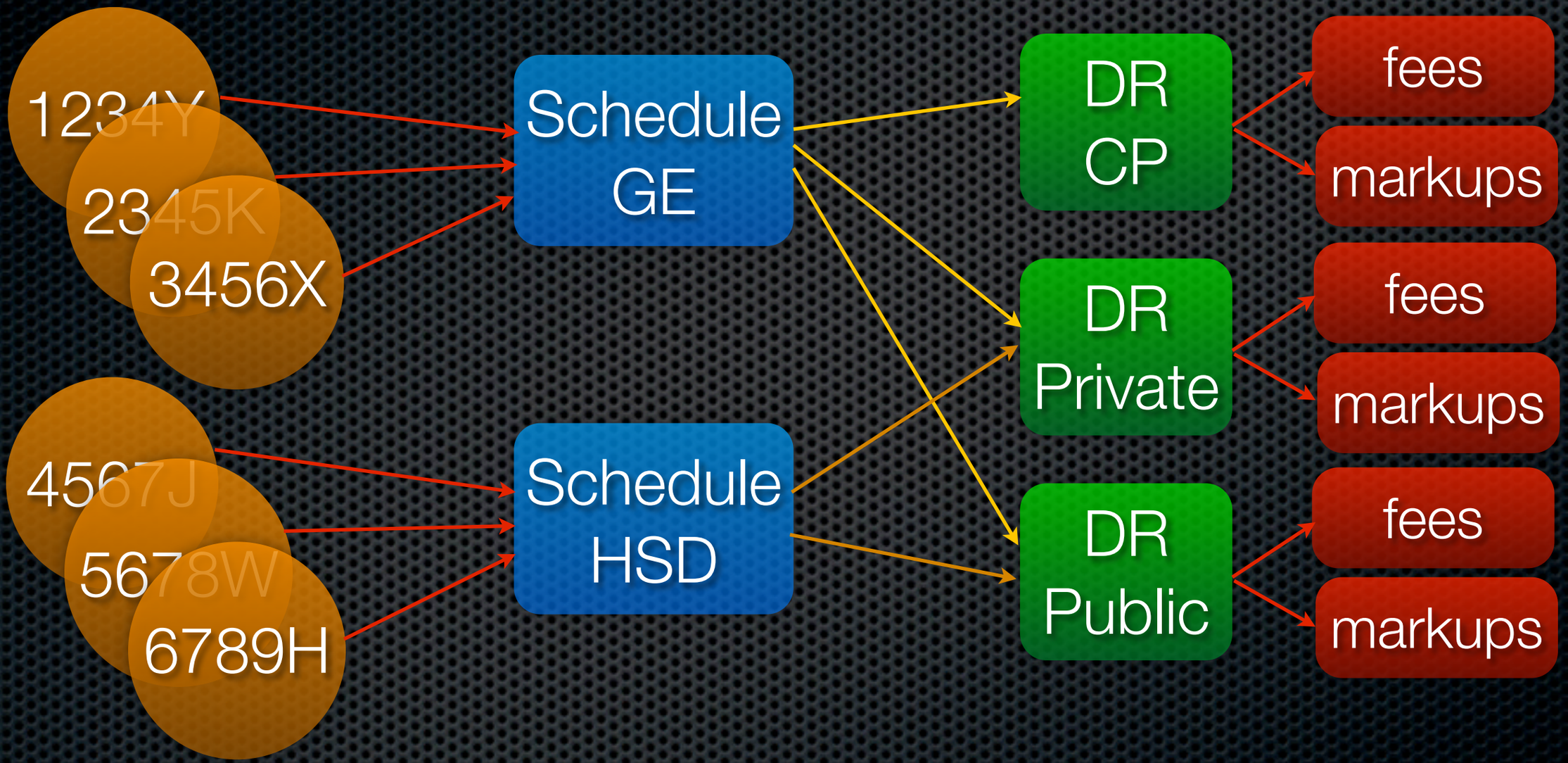
Dispensing Rules

- Recent HSD changes partially to address this issue
- Item codes duplicated for Public, Private hospitals
- Q: Same approach for GE schedule?
- A: would require duplicating or triplicating 1500+ item codes

Dispensing Rules

- Solution: Dispensing Rules
- Adjunct to Prescribing Rules
- DR is a set of markups and fees
- 1-or-more DRs per schedule
- Each DR is applied to every PR in schedule

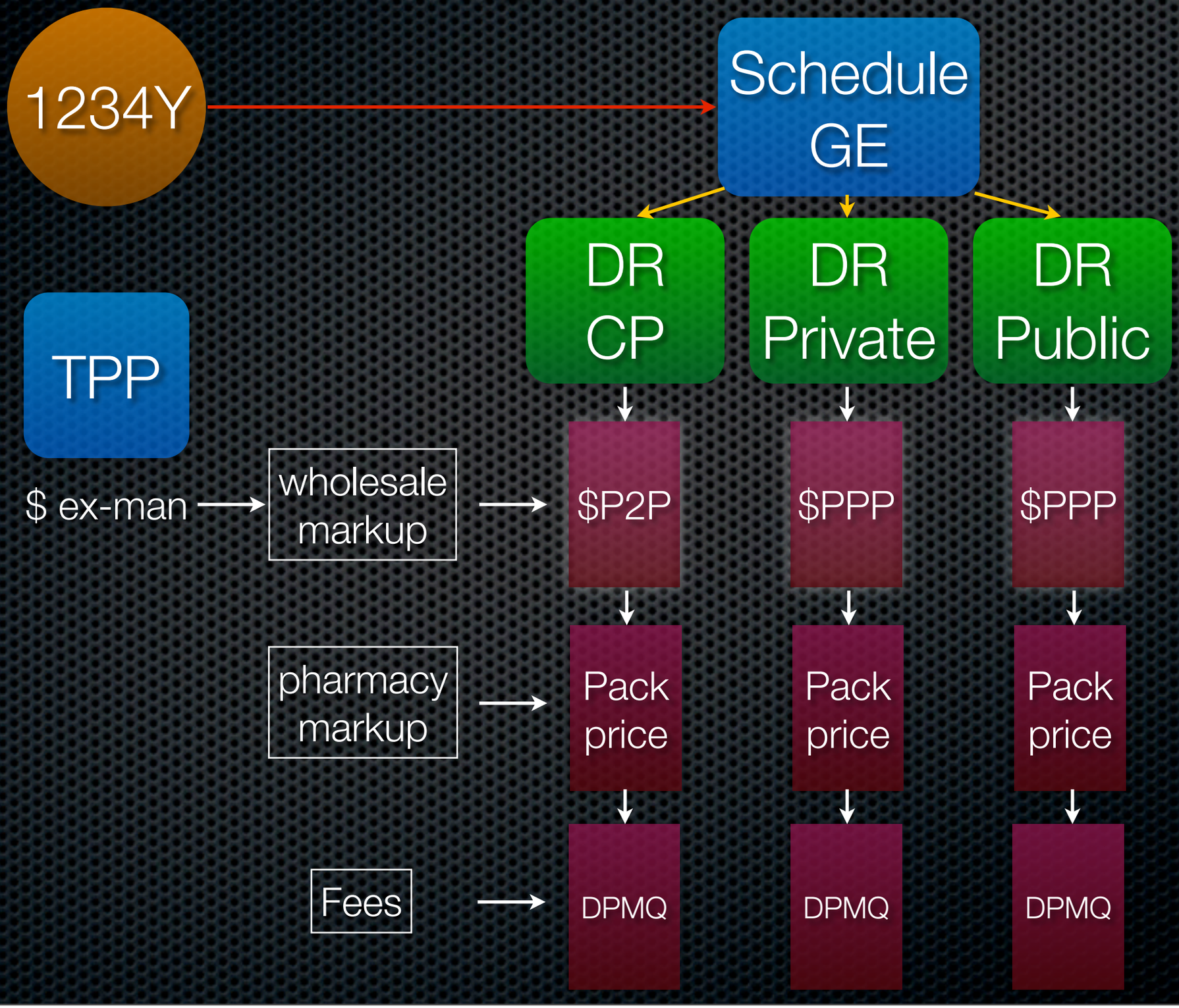
Dispensing Rules



Dispensing Rules

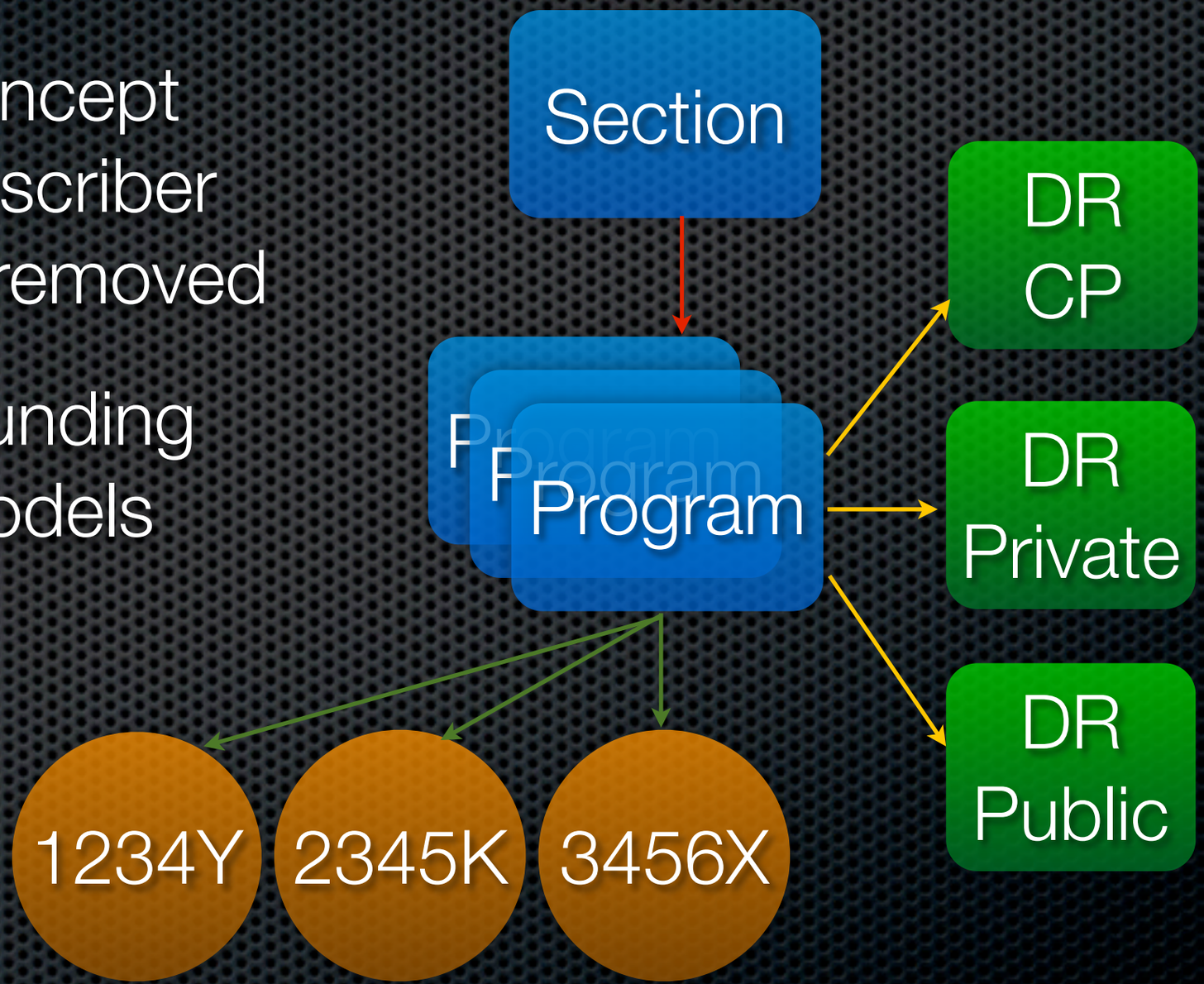
- Pricing Models
- Determines how the DPMQ is calculated (and other pricing details)
- Different programs have different pricing models
- Some programs share pricing models
- Ready-prepared, premium-free, infusable, emergency-drug-supply, extemporaneous-preparation

Dispensing Rules



Dispensing Rules

- "Schedule" concept not useful; prescriber types already removed
- Really about funding and pricing models



Dispensing Rules

- Advantages:
  - Fewer “schedules”
  - Fewer PBS Item Codes; no need for duplication

Dispensing Rules

- Consequence:
- Price-to-pharmacist is calculated
- Price ex-manufacturer only stable value

Dispensing Rules

- PBS XML
- Philosophy: all data provided
- Reverse calculations unnecessary
- Identify DRs using URIs
- Indicate DR values used using internal identifier

Dispensing Rules

```
<pbs:listings-list xml:id="abcde">
  <pbs:info>
    <dbk:title>Ready-Prepared Pharmaceutical Benefits</dbk:title>
    <pbs:category>General Provisions for the Supply of Pharmaceutical
Benefits</pbs:category>
    <pbs:code>GE</pbs:code>
      <pbs:pricing-model>http://schema.pbs.gov.au/Pricing/ready-prepared</
pbs:pricing-model>
    </pbs:info>
    ...
```

Dispensing Rules

```
<pbs:dispensing-rules-list>
 <pbs:dispensing-rule about="http://schema.pbs.gov.au/DR/S90">
  <dbk:title>s90 Community Pharmacy</dbk:title>
  <pbs:fees-list>
   <pbs:fee-definition xml:id="abcfh">
    <pbs:type>fee:dispensing</pbs:type>
    <dbk:title>Dispensing Fee</dbk:title>
    <pbs:amount>5.15</pbs:amount>
   </pbs:fee-definition>
   <pbs:fee-definition xml:id="abcfi">
    <pbs:type>fee:safety-net-recording</pbs:type>
    <dbk:title>Safety Net Recording Fee</dbk:title>
    <pbs:amount>0.99</pbs:amount>
   </pbs:fee-definition>
   ...
```

Dispensing Rules

```
<pbs:markups-list>
  <pbs:markup-band xml:id="abcrx">
    <pbs:code>W</pbs:code>
    <pbs:limit>0.01</pbs:limit>
    <pbs:type>markup:percent</pbs:type>
    <pbs:amount>7.52</pbs:amount>
  </pbs:markup-band>
  <pbs:markup-band xml:id="abcfo">
    <pbs:code>C</pbs:code>
    <pbs:limit>0.01</pbs:limit>
    <pbs:type>markup:percent</pbs:type>
    <pbs:amount>10.00</pbs:amount>
  </pbs:markup-band>
  <pbs:markup-band xml:id="abcfp">
    <pbs:code>C</pbs:code>
    <pbs:limit>30.01</pbs:limit>
    <pbs:type>markup:dollar</pbs:type>
    <pbs:amount>4.50</pbs:amount>
  </pbs:markup-band>
  ...
```

Dispensing Rules

```
<pbs:pricing>
  <pbs:reimbursement>
    <pbs:ex-manufacturer>440.00</pbs:ex-manufacturer>
    <pbs:to-pharmacist>
      <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S90">
        <pbs:amount>473.09</pbs:amount>
        <pbs:markup xlink:href="#abcrx">33.09</pbs:markup>
      </pbs:price>
      <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Private">
        <pbs:amount>488.84</pbs:amount>
        <pbs:markup xlink:href="#abcgb">48.84</pbs:markup>
      </pbs:price>
      <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Public">
        <pbs:amount>440.00</pbs:amount>
        <pbs:markup xlink:href="#abcry">0.00</pbs:markup>
      </pbs:price>
    </pbs:to-pharmacist>
  ...
```

Dispensing Rules

```
<pbs:pack-price>
 <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S90">
  <pbs:amount>492.01</pbs:amount>
  <pbs:markup xlink:href="#abcfs">18.92</pbs:markup>
 </pbs:price>
 <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Private">
  <pbs:amount>495.68</pbs:amount>
  <pbs:markup xlink:href="#abcgc">6.84</pbs:markup>
 </pbs:price>
 <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Public">
  <pbs:amount>440.00</pbs:amount>
  <pbs:markup xlink:href="#abcgg">0.00</pbs:markup>
 </pbs:price>
</pbs:pack-price>
...
```

Dispensing Rules

```
<pbs:dpmq>
 <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S90">
  <pbs:amount>497.16</pbs:amount>
  <pbs:fee xlink:href="#abcfh">5.15</pbs:fee>
 </pbs:price>
 <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Private">
  <pbs:amount>500.83</pbs:amount>
  <pbs:fee xlink:href="#abcfu">5.15</pbs:fee>
 </pbs:price>
 <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Public">
  <pbs:amount>440.00</pbs:amount>
  <pbs:fee xlink:href="#abcgf">0.00</pbs:fee>
 </pbs:price>
</pbs:dpmq>
</pbs:reimbursement>
 ...
```

Dispensing Rules

```
<pbs:benchmark-dpmq>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S90">
    <pbs:amount>910.90</pbs:amount>
    <pbs:fee xlink:href="#abcfh">5.15</pbs:fee>
    <pbs:contribution>
      <pbs:type>contrib:special-patient</pbs:type>
      <pbs:amount>413.74</pbs:amount>
    </pbs:contribution>
  </pbs:price>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Private">
    <pbs:amount>917.66</pbs:amount>
    <pbs:fee xlink:href="#abcfu">5.15</pbs:fee>
    <pbs:contribution>
      <pbs:type>contrib:special-patient</pbs:type>
      <pbs:amount>416.83</pbs:amount>
    </pbs:contribution>
  </pbs:price>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Public">
    <pbs:amount>810.00</pbs:amount>
    <pbs:fee xlink:href="#abcgf">0.00</pbs:fee>
    <pbs:contribution>
      <pbs:type>contrib:special-patient</pbs:type>
      <pbs:amount>370.00</pbs:amount>
    </pbs:contribution>
  </pbs:price>
</pbs:benchmark-dpmq>
```

Dispensing Rules

```
<pbs:prices>
 <pbs:tpp-reference xlink:href="#abcgm"/>
 <pbs:to-pharmacist>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S90">
   <pbs:amount>870.91</pbs:amount>
   <pbs:markup xlink:href="#abcrx">60.91</pbs:markup>
  </pbs:price>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Private">
   <pbs:amount>899.91</pbs:amount>
   <pbs:markup xlink:href="#abcgb">89.91</pbs:markup>
  </pbs:price>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Public">
   <pbs:amount>810.00</pbs:amount>
   <pbs:markup xlink:href="#abcry">0.00</pbs:markup>
  </pbs:price>
 </pbs:to-pharmacist>
 ...
```

Dispensing Rules

```
<pbs:pack-price>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S90">
    <pbs:amount>905.75</pbs:amount>
    <pbs:markup xlink:href="#abcfs">34.84</pbs:markup>
  </pbs:price>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Private">
    <pbs:amount>912.51</pbs:amount>
    <pbs:markup xlink:href="#abcgc">12.60</pbs:markup>
  </pbs:price>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Public">
    <pbs:amount>810.00</pbs:amount>
    <pbs:markup xlink:href="#abcgg">0.00</pbs:markup>
  </pbs:price>
</pbs:pack-price>
...
```

Dispensing Rules

```
<pbs:wastage-pack-price>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S90">
    <pbs:amount>905.75</pbs:amount>
    <pbs:markup xlink:href="#abcfs">34.84</pbs:markup>
  </pbs:price>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Private">
    <pbs:amount>912.51</pbs:amount>
    <pbs:markup xlink:href="#abcgc">12.60</pbs:markup>
  </pbs:price>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Public">
    <pbs:amount>810.00</pbs:amount>
    <pbs:markup xlink:href="#abcgg">0.00</pbs:markup>
  </pbs:price>
</pbs:wastage-pack-price>
...
```

Dispensing Rules

```
<pbs:dpmq>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S90">
    <pbs:amount>995.09</pbs:amount>
    <pbs:fee xlink:href="#abcfh">5.15</pbs:fee>
    <pbs:contribution>
      <pbs:type>contrib:special-patient</pbs:type>
      <pbs:amount>413.74</pbs:amount>
    </pbs:contribution>
    <pbs:contribution>
      <pbs:type>contrib:brand-premium</pbs:type>
      <pbs:amount>84.19</pbs:amount>
    </pbs:contribution>
  </pbs:price>
  <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S94-Private">
    <pbs:amount>1002.49</pbs:amount>
    <pbs:fee xlink:href="#abcfu">5.15</pbs:fee>
    <pbs:contribution>
      <pbs:type>contrib:special-patient</pbs:type>
      <pbs:amount>416.83</pbs:amount>
    </pbs:contribution>
    <pbs:contribution>
      <pbs:type>contrib:brand-premium</pbs:type>
      <pbs:amount>84.83</pbs:amount>
    </pbs:contribution>
```

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Chemotherapy

- Revised Arrangements for the Efficient Funding of Chemotherapy Drugs
- 5CPA
- Replaces ICSP

Chemotherapy

- Infusion
- One active ingredient
  - Multiple active ingredients are separate infusions
- One copayment per cycle
  - payable on original script

Chemotherapy

- Prescription specifies dosage
- Expressed in Unit Of Measure
  - Usually “1 milligram”
- Other UOM possible
  - 250 micrograms
  - 500 IU

Chemotherapy

- Listing
- PR based on drug and UOM
- MQ stated in terms of UOM
- Multiple PRs for different restrictions
- New item codes for revised arrangements

Chemotherapy

- Listing
- All TPPs listed in PR regardless of size
- TPPs include mass of active ingredient
- “pack content”

TPP volume is not considered in algorithm

Chemotherapy

- Listing
- CPAP divides in two:
  - CPAP Infusables
  - CPAP Non-Infusables
- Difference is pricing model

TPP volume is not considered in algorithm

Chemotherapy

- Pricing formula

Payment	S90-Pharm	S94-Private	S94-Public
ex-man	✓	✓	✓
Markup	✓	1.4%	✗
aggregate	✓	✓	✓
Wholesale fee	$24	$24	✗
Dispense fee	✓	✓	✗
Prep fee	$40	$40	$40.00
Diluent fee	$4.75	$4.75	✗

Above line: per-TPP. Below line: per-infusion.

Chemotherapy

- TPP reimbursement price ex-man
- TPP manufacturer price ex-man
- Can be different
  - TGP/SPC or Brand Premium
- Reimbursement DPMQ calculated
- Other DPMQs not defined

Reimbursement price ex-man used in pricing formula resulting in reimbursement DPMQ.

Chemotherapy

- Additional payments
- PBS online incentive payment
- PFDI
  - only one per infusion if any TPP selected by algorithm attracts PFDI

Chemotherapy

- What vial combination?
- Least cost to Commonwealth vial combination algorithm
- Wastage not a concern
- Only determines reimbursement price
- Any combination may be dispensed

Chemotherapy

- Algorithm inputs:
  - Listings
    - Mass of active ingredient, not vial volume
    - Infusable drug
    - Prescribed dosage
    - Dispensary type

Chemotherapy

- Algorithm outputs:
  - Reimbursement price
  - Sample TPP combination

Sample TPP combo results in reported price. Other combinations may give the same price.

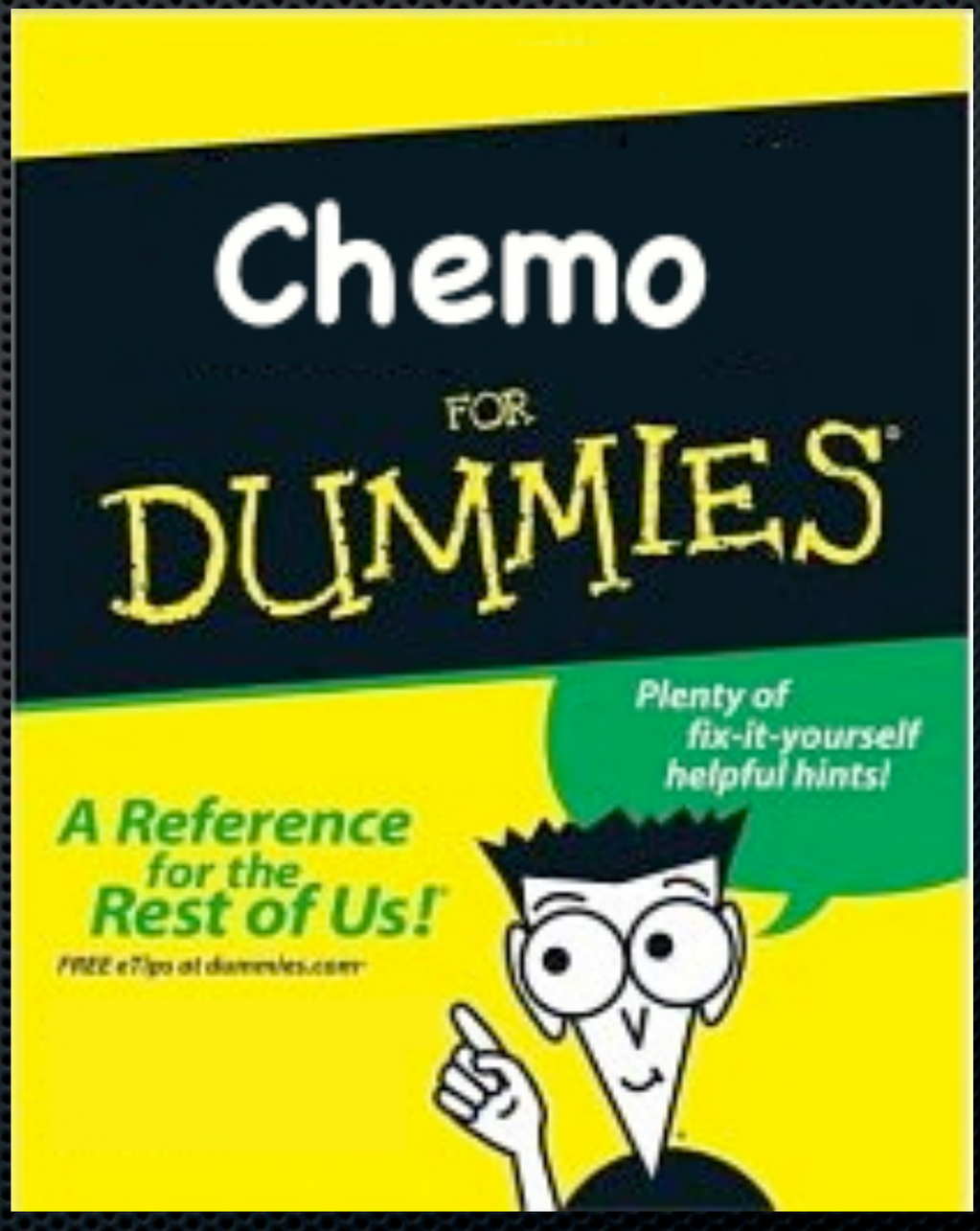
Chemotherapy

- Algorithm version 1
  - “Brute force”
- Lower bound
- Upper bound
- Enumerate all TPP combinations
- min(price(TPP combo))

Lower bound = prescribed dosage. Upper bound = prescribed dosage + (< 1 TPP wastage)

Chemotherapy

- Algorithm version 6
- Shortcuts



Chemotherapy

- Example: Cisplatin
- TPPs:
  - Cisplatin (PU) 10mg in 10mL $6.20
  - Cisplatin Ebewe 10mg in 10mL $6.20
  - Cisplatin (Hospira) 50mg in 50mL $31.00
  - Cisplatin (PU) 50mg in 50mL $31.00

Reminder: TPP volume not considered. Prices are ex-man.

Chemotherapy

- Example: Cisplatin
- TPPs:
  - Cisplatin (PU) 100mg in 100mL $58.00
  - Cisplatin Ebewe 100mg in 100mL $58.00
  - Cisplatin (Hospira) 100mg in 100mL $58.00

Reminder: TPP volume not considered. Prices are ex-man.

Chemotherapy

- Example:
- Dispensary type: Private Hospital Pharmacy
- Prescribed dosage: 212mg

Chemotherapy

- Step 0: Calculate pack price for all TPPs
- For Community Pharmacy, Price Ex-manufacturer for Maximum Quantity determines markup band
- Pack price = Price Ex-man + markup

Chemotherapy

- Example: Private Hospital Markup = 1.4%
  - Cisplatin (PU/Ebewe) 10mg markup = $0.09 ($0.868)
    - Pack price = $6.29
  - Cisplatin (Hospira/PU) 50mg markup = $0.43 ($0.434)
    - Pack price = $31.43
  - Cisplatin (Hospira/PU/Ebewe) 100mg markup = $0.81 ($0.812)
    - Pack price = $58.81

Chemotherapy

- Example: Community Pharmacy (MQ=500mg)
  - Cisplatin (PU/Ebewe) 10mg markup
    - Price ex-man for MQ = 50 x $6.20 = $310.00
    - Markup = $18.00 / 50 = $0.36
    - Pack price = $6.20 + $0.36 = $6.56

Chemotherapy

- Step 1: Compute per-UOM-price ∀ TPPs
- TPP ex-man price / mass active ingredient
- No rounding

Chemotherapy

- Example:
  - Cisplatin (PU/Ebewe) 10mg pack price = $6.20
    - per-UOM-price = $0.62
  - Cisplatin (Hospira/PU) 50mg pack price = $31.00
    - per-UOM-price = $0.62
  - Cisplatin (Hospira/PU/Ebewe) 100mg pack price = $58.00
    - per-UOM-price = $0.58

Chemotherapy

- Step 2: Grouping and sorting
- First group TPPs by per-UOM-price
- Sort groups in ascending order of per-UOM-price
- Secondary sort: descending order of pack content
- Group together TPPs with equal pack content

Chemotherapy

- Example:
  - Cisplatin (Hospira/PU/Ebewe) 100mg puomp = $0.58
  - Cisplatin (Hospira/PU) 50mg, 10mg puomp = $0.62

Chemotherapy

- Step 3: No-Wastage Shortcut
- Take first TPP group
- Has lowest per-UOM-price
- If some combination of TPPs in this group exactly provides dosage then stop

Chemotherapy

- Step 3
- Start with first TPP subgroup in TPP group
- Largest pack content
  - If pack content > dosage then skip
  - If dosage mod pack content = 0 then stop
  - Otherwise try 1..floor(dosage / pack content) recursively with dosage = D - n*pack content

Chemotherapy

- Example: dosage D = 212mg
- Consider TPP group puomp=$0.58
  - Cisplatin 100mg, 1 subgroup
  - D mod 100 = 12

Chemotherapy

- Step 4, substeps:
- 4a: use only lowest puomp, largest pack content
- 4b: use lowest puomp, all other smaller pack content (recursive)
- 4c: use 4a - 1, fill remainder dosage with higher puomp (recursive)
- 4d: use all higher puomp (recursive)

Chemotherapy

- Example: Step 4a
- TPP group Cisplatin 100mg, 1 subgroup
- #TPPs = ceiling(212mg / 100mg) = 3
- 4a price = 3 * pack price = 3 * $58.81 = $176.43

Chemotherapy

- Example: Step 4b
- TPP group Cisplatin 100mg, 1 subgroup
- no other subgroups
- 4b price = $∞

Chemotherapy

- Example: Step 4c
- TPP group Cisplatin 100mg, 1 subgroup
- #TPPs = floor(212mg / 100mg) = 2
- new dosage = 212mg - 2 * 100mg = 12mg
- Recurse using TPP group 50mg, 10mg

Chemotherapy

- Example: Step 4c (recursion) dosage 12mg
- TPP group Cisplatin 50mg/10mg, 2 subgroups
- Step 3: no match
  - 4a: 1 x 50mg = $31.43
  - 4b: 2 x 10mg = $12.58 (10mg recurse 4a)
  - 4c: $∞
  - 4d: $∞

Chemotherapy

- Example: Step 4c (recursion) dosage 12mg
- min($31.43, $12.58, $∞, $∞) = $12.58
- price 4c = 2 x $58.81 + $12.58 = $130.20

- TPP combo: 2 x 100mg + 2 x 10mg
- Arbitrary choice of brands in 100mg/10mg TPP groups

Chemotherapy

- Example: Step 4d, dosage 212mg
- 50mg, 10mg TPP group
- Step 3: no match
- Recursive Step 4a: 5 x $31.43 = $157.15
- Recursive Step 4b: 22 x $6.29 = $138.38 (recurse^2 10mg step 4a)

Chemotherapy

- Example: Step 4d, dosage 212mg
- Recursive Step 4c: $∞
- Recursive Step 4d: $∞
- Step 4d price = min($157.15, $138.38, $∞, $∞)
  = $138.38

Chemotherapy

- Example: Step 4
- Price = min($176.43, $∞, $130.20, $138.38)
  = $130.20
- TPP combo =
  2 x Cisplatin 100mg + 2 x Cisplatin 10mg
- Arbitrary choice of brand

Chemotherapy

- Add infusion fees
- Wholesale fee $24.00
- Diluent fee $4.75
- Preparation fee $40.00
- Dispensing fee $5.15
- Total: $204.10

Chemotherapy

- Demo
- cost-efficient-vial-combo.xsl

Chemotherapy

- PBS XML v2.4
- No changes planned for text files

Chemotherapy

```
<pbs:listings-list xml:id="abcrq">
  <pbs:info>
    <dbk:title>CPAP Infusables</dbk:title>
    <pbs:category>Section 100</pbs:category>
    <pbs:code>CI</pbs:code>
      <pbs:pricing-model>http://schema.pbs.gov.au/Pricing/infusable</
pbs:pricing-model>
    </pbs:info>
```

Chemotherapy

```
<pbs:dispensing-rules-list>
 <pbs:dispensing-rule about="http://schema.pbs.gov.au/DR/S90">
  <dbk:title>s90 Community Pharmacy</dbk:title>
  <pbs:fees-list>
    ...
    <pbs:fee-definition xml:id="abcso">
      <pbs:type>fee:infusion-wholesale</pbs:type>
      <dbk:title>Flat wholesale fee</dbk:title>
      <pbs:amount>24.00</pbs:amount>
    </pbs:fee-definition>
    <pbs:fee-definition xml:id="abcsp">
      <pbs:type>fee:infusion-preparation</pbs:type>
      <dbk:title>Preparation fee</dbk:title>
      <pbs:amount>40.00</pbs:amount>
    </pbs:fee-definition>
    ...
```


Normal fees and markups, plus additional infusable-specific fees

Chemotherapy

```
<pbs:prescribing-rule type="unrestricted" xml:id="abcrr">
 <pbs:code>10010W</pbs:code>
 <pbs:member-of-list>
  <pbs:member-of xlink:href="#abcdl"/>
 </pbs:member-of-list>
 <pbs:effectivity>
  <pbs:start>2011-12-01</pbs:start>
 </pbs:effectivity>
 <pbs:infusable>
  <pbs:mp-reference xlink:href="#abcmt"/>
  <pbs:classification>
   <pbs:ATC>atc:L01XA01</pbs:ATC>
  </pbs:classification>
  <pbs:maximum-quantity reference="unit-of-measure" unit="mg"
amount="1">500</pbs:maximum-quantity>
  <pbs:number-repeats>5</pbs:number-repeats>
```

Chemotherapy

```
<pbs:pricing>
  <pbs:reimbursement>
    <pbs:dpmq>
      <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S90">
        <pbs:amount>381.90</pbs:amount>
        <pbs:fee xlink:href="#abcsl">5.15</pbs:fee>
        <pbs:fee xlink:href="#abcso">24.00</pbs:fee>
        <pbs:fee xlink:href="#abcsq">4.75</pbs:fee>
        <pbs:fee xlink:href="#abcsp">40.00</pbs:fee>
      </pbs:price>
      ...
```


Only reimbursement DPMQ provided

Chemotherapy

```
<pbs:prices puomp="0.58">
 <pbs:tpp-list>
  <pbs:pack-price>
   <pbs:price dispensing-rule="http://schema.pbs.gov.au/DR/S90">
    <pbs:amount>61.60</pbs:amount>
    <pbs:markup xlink:href="#abcsu">3.60</pbs:markup>
   </pbs:price>
    ...
  </pbs:pack-price>
  <pbs:pack-content unit="mg" amount="1">100</pbs:pack-content>
  <pbs:tpp-reference xlink:href="#abcpb"/>
  <pbs:tpp-reference xlink:href="#ancow"/>
  <pbs:tpp-reference xlink:href="#abcpe"/>
 </pbs:tpp-list>
```


pbs:prices groups TPPs with equal puomp. pbs:prices elements in ascending order of puomp. tpp-list groups TPPs with equal pack-content. tpp-list in descending order of pack size.

Chemotherapy

```
<pbs:mpp xml:id="abcmv">
  <pbs:code scheme="urn:snomed-org/sct">ba3746da-453f-5e7a-b5bd-
ea9d42b8ee74</pbs:code>
  <dbk:title>I.V. injection 10 mg in 10 mL</dbk:title>
  <pbs:pack-size>1</pbs:pack-size>
  <pbs:pack-content unit="mg" amount="1">10</pbs:pack-content>
    <pbs:tpp xml:id="abcou">
      <dbk:title>Cisplatin I.V. injection 10 mg in 10 mL</dbk:title>
      <dbk:subtitle>Cisplatin (Pharmacia &amp;amp; Upjohn)</dbk:subtitle>
      <pbs:code scheme="urn:snomed-org/
  sct">bcc9b0c1-44bf-58d8-8d2a-8852015e289b</pbs:code>
      <pbs:pack-size>1</pbs:pack-size>
      <pbs:pack-content unit="mg" amount="1">10</pbs:pack-content>
```


Drug description is AMT. pbs:pack-content is only non-AMT addition.

Agenda

- Introduction/setup
- Review Action Items
- Dispensing Rules
- Chemotherapy Measure
- HSDs: CAR Items
- PBS XML Schema
- SNOMED

CAR Items

- Recent changes to HSD listings
- Exposed compliance issue for CAR items
- What is a CAR item?
  - Can be identified in current data
  - Need better long term solution

CAR Items

- XSL stylesheet released to identify CAR items
- PBS XML v1.7pl3

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PBS XML Schema

- Released version 2.4
- v2.4(+) in production late 2011
- Package includes:
  - Schema: RELAX NG, Schematron & XSD
  - Sample data
  - Sample software: XSL stylesheets
  - Documentation

PBS XML Schema

- Refactor design
- Simplify
- Remove unnecessary patterns/elements
- Realign terminology
- See refactor document in distribution package

PBS XML Schema

- Refactor design
- Rationalised toplevel:
- pbs:changes-list, pbs:schedule, pbs:drugs-list, rwt:restrictions-list, pbs:organisations-list, pbs:groups-list, rdf:RDF

PBS XML Schema

- Refactor design
- Restructured changes
- pbs:changes-list
  pbs:changes | pbs:advance-notice
  pbs:addition | pbs:alteration | pbs:deletion
  pbs:to-be-deleted

pbs:changes groups together related change elements

PBS XML Schema

- Refactor design
- Simplify listings
- pbs:schedule
  pbs:copayments-list | pbs:listings-list
  pbs:prescribing-rule [@type]
  pbs:ready-prepared | pbs:solvent-rule | pbs:infusable |
  pbs:drug-tariff | pbs:standard-formula-preparation

pbs:listings-list represents a program. Prescribing rule type attribute gives restriction level.

PBS XML Schema

- Refactor design
- Realign drug descriptors
- AMT
- pbs:drugs-list
  pbs:mp
  pbs:mpp
  pbs:tpp

pbs:mp, pbs:mpp and pbs:tpp include corresponding SnoMED identifier.

PBS XML Schema

- Refactor design
- Controlled vocabularies
- Major cause of version churn in v1.X series
- Moved data from schema to rdf:RDF section
- Schematron checks correct use of vocabularies

Vocabulary data contained in PBS XML rather than separate document.

PBS XML Schema

- Refactor design
- Controlled vocabularies
- Each vocabulary assigned XML Namespace
- Schema binds namespace to element
- Element value URI or QName

Weakness: too many XML Namespaces. Element value QName must use same namespace URI.

PBS XML Schema

- Refactor design
- Controlled vocabularies

```
<pbs:root version="2.4"
        xmlns:fee="http://schema.pbs.gov.au/Fee#"
...
        <pbs:fee-definition xml:id="abcth">
          <pbs:type>fee:dispensing</pbs:type>
          <dbk:title>Dispensing Fee</dbk:title>
          <pbs:amount>5.15</pbs:amount>
        </pbs:fee-definition>
```

PBS XML Schema

```
<rdf:RDF>
...
   <skos:Concept rdf:about='http://schema.pbs.gov.au/Fee'>
     <skos:definition>Controlled vocabulary for Fees</
skos:definition>
     <skos:narrower rdf:resource='fee:dispensing'/>
   </skos:Concept>
   <skos:Concept rdf:about='fee:dispensing'>
     <skos:definition>Dispensing fee</skos:definition>
     <skos:prefLabel>Dispensing fee</skos:prefLabel>
     <skos:broader rdf:resource='http://schema.pbs.gov.au/Fee'/>
   </skos:Concept>
```

PBS XML Schema

- Maintaining sample software
- Proposal: start Open Source community
- DoHA principal sponsor
- Accept contributions
  - modifications
  - additions

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SNOMED

- AMT for drug descriptions
- SNOMED for medical descriptions
- Proposal: align RWT with SNOMED
- Initial analysis: not a complete fit, but significant overlap
- Need to establish reduced reference set
- Feedback?

RWT = Restrictions Wording Tool and is used for PBS restrictions.

Agenda

- PBS Number (Item Codes)
- PIR: Prescriber Types
- Data Provisioning
- Other Business
- Meeting Close

PBS Number

- 2011-02-01: 416 unallocated 4 digit codes
- 253 codes allocated in 2010
- pre-1987 codes: approx 600 codes
- PharmCIS: 200 codes
- Estimated exhaustion: 2016

PBS Number

- DoHA & MCA to be 5-digit capable by late 2011
- Test data includes 5 digit codes
- Will not use 5 digit codes until all 4 digit codes are exhausted

Agenda

- PBS Number (Item Codes)
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Prescriber Types

- Post-Implementation Review
- Nurse Pracs & Midwives
  - effective 1st November 2010
- Prescriber groups in PBS XML
  - released early October 2010
- Feedback?

Agenda

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Data Provisioning

- Timely provision of Schedule data
- PDFs, XML, etc
- Streamlining of processes

Agenda

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Agenda

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Meeting Close

- Next meeting
- May 2011?